News focus

Europe's ambitions for an MIT

The European Commission wants to create a new flagship institute to match the Massachusetts Institute of Technology but there are many challenges ahead. **Michael Gross** reports.

The European Union has always been associated with mathematical problems, from the growing number of its member states, via the formidable challenge of working out the financial contributions paid by some, and subsidies received by other member states, through to squaring the circle of the failed constitution.

Recently, the European Commission has made a new foray into mathematics by studying the 'knowledge triangle', which is apparently defined by the corners of education, research, and innovation. It concluded that "Europe should not only develop the three corners of its knowledge triangle, but reinforce the bridges between them." So far, so clear. An altogether stronger triangle.

But what to do about it? A year ago, the Commission proposed to create a European Institute of Technology (EIT) as a flagship centre of excellence, "to act as a pole of attraction for the very best minds, ideas, and companies from around the world." At a press conference in Brussels, commission president Jose Manuel Barroso said that an EIT would be a "great, inspiring project for Europe." Following a year-long consultation exercise, the proposal has now gained a more definitive shape and was set for formal discussions late last month at the EU summit.

There has been criticism suggesting that the EU is again dispersing its resources too much, and particularly that it is weakening the newly created European Research Council (see Curr. Biol. (2005), *15*, R359–R360) and existing activities such as the European Science Foundation (ESF), the Framework Programmes, and Marie Curie fellowships.

In response to these concerns, the Commission clarified that the EIT (consciously named in analogy to MIT, which is renowned for its business contacts) will not be a new research facility requiring heavy investment. It is designed to be a virtual institute, bringing together the best researchers from across Europe in a formal arrangement, but without moving them away from their home labs. So the resulting "institute" would be more like Howard Hughes Medical Institute than a new MIT.

Germany's new research minister, Annette Schavan, welcomed the proposal and emphasised the competitive aspect of selecting the right research groups to participate in the EIT. "The selection of the best research institutions should happen as a competition," she said. "I'm thinking of the excellence competition which we are carrying out successfully in Germany right now," she added, hinting at the ongoing 'Pop Idol' style search for Germany's top universities (Curr. Biol. (2006) *16*, R179–R180).

The selected groups, departments, and companies will form 'knowledge communities', which are proposed to be the operative units of the EIT. Each knowledge community will be specialising on a trans-disciplinary research field, such as bio-informatics, or climate change, as such specialisation would both offer added value with respect to the traditionally organised university departments and promise the greatest potential for innovation.

While the partner organisations in such knowledge communities will remain dispersed across Europe, they will second their resources to the EIT in a legally binding format, for an anticipated project run time of 10–15 years. A 'light' governing board will organise the selection, evaluation, and monitoring of the knowledge communities, oversee the strategic development of research and intellectual property, and more generally take care of the EIT strategy and brand identity. The current plan is to establish the EIT as a legal entity by 2008, then appoint the

Top class: First-rate students are attracted to the MIT and the EU would like to create its own high-level technology institute. (Photo: Donna Coveney/MIT).

governing board and first core staff. All going well, the first knowledge communities will then be selected in 2009, and serious money will be pumped into research from 2010 onwards.

So will this whole enterprise take funding away from other EU activities? The Commission has not presented a detailed financial plan yet. Apart from some EU funding, it will probably also expect contributions from the member states, most of which have so far failed to come near to the common goal of spending 3 per cent of GNP on research and development. Most crucially, however, the Commission emphasises that all the partnerships are expected to attract funding from private companies, large and small. It calls for "a new approach to funding" and for a new culture of mutual understanding between academic researchers and companies, including small and medium enterprises (SMEs) which may so far have lacked organised cooperation with universities.

Thus, there would be some initial funding required to set up the governing board and core administration and to kick-start the research projects, but the underlying hope appears to be that, by raking in development funds from companies that would otherwise have looked to spend the money outside Europe, and by appealing to the conscience of under-spending member states, the EU will not have to commit much of its own budget on the EIT.

Creating a world-class centre of excellence practically for free and reinforcing the knowledge triangle between education, research and innovation in the process — that sounds like another attempt to square the circle, and it may end up with the governments of the member states being at sixes and sevens with each other. Time will tell whether the EU got the maths right on this ambitious project for a new world-class technology institute.

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BSE cloud lifts

Cases of BSE are plummeting in the UK but fears continue for the wider impact. **Nigel Williams** reports.

The European Commission last month finally lifted the ban on the export of British beef, as the number of cases of BSE in the country has fallen dramatically. But any relief felt by farmers has not yet moved through to those researching the human and other consequences of this devastating disease.

Scientific advisers to the EU Commission in Brussels signalled the end of the ban when they agreed that Britain's anti-BSE measures had brought the disease to heel within its cattle population and its farmers should once more be allowed to compete for a share of international markets. The legislation needed to back up the recommendation could be in force later this month.

Markos Kyprianou, EU commissioner for health and consumer protection, said the commission "has taken no chances when it comes to dealing with BSE", but Britain had made "great strides in tackling the disease, meeting all the necessary criteria."

In Britain, the epidemic peaked in 1992, with over 36,000 cases confirmed, but since then the number of cases has declined dramatically. There have been only 124 cases confirmed in animals born after the introduction of the reinforced ban in 1996. Overall the British epidemic is in steep decline with only 203 cases confirmed in 2005.

But there is little sign that the agenda for Spongiform Encephalopathy Advisory Committee (SEAC) and research teams is showing a concomitant tailing off. The committee monitors BSE and the other related spongiform encephalopathies including variant CJD, thought to derive from the BSE agent, and the sheep scrapie agent.

Since the introduction of new tests in 2002, around 100 cases of what is called atypical scrapie have been detected in sheep in the UK. These results have been highlighted as a continuing cause for concern. And the confirmation of another case of variant CJD through blood transfusion in February has led SEAC to step up the gathering of better data on the prevalence, age and genotype distribution, based on population studies of vCJD. These, it believes, "are required with some urgency". These agents are still a threat to human and animal health.

Beefing up: Cases of BSE are declining in the UK but wider worries about the agent remain. (Photo: Martyn Chillmaid/Oxford Scientific OSF.)